
MEDICAL EXAMINER.

NEW SERIES.

No. 46.] PHILADELPHIA, NOVEMBER 12, 1842. [VOL. I

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY.

Monday, November 7th.

The Vice President, Dr. RANDOLPH, in the Chair.

Dr. PEPPER read the report of a case of

Medullary Sarcoma of the Liver perforating the Peritoneum.

Francis B——, a seaman, of intemperate habits, aged about 50 years, entered the Pennsylvania Hospital June 14th, 1842.

He stated that five years ago, whilst at sea, he had received a severe contusion on the right side; and from that time he has complained of more or less pain in the region of the liver, increased by exposure to cold or sudden atmospheric changes.

Present condition.—Pulse 100 per minute, and moderately full; tongue coated brown; skin warm, and of a dark yellow colour; bowels constipated; urine scanty, and of a saffron tint; intelligence perfect, and he states that the yellowness of his skin commenced only two weeks before his admittance into the Hospital. He complains of pain in the epigastric region, which is greatly increased by the slightest pressure, or least motion of his body; he also has occasional vomiting of glairy mucus, with constant nausea. No distinct tumour can be felt below the margin of the ribs; but the right side of the thorax, at its lower part, is more prominent than the left; and percussion is perfectly flat from the margin of the ribs up to the axilla: over the same extent the respiration is entirely absent.

A mercurial purge, administered soon after his entrance, caused copious discharges of clay-coloured fæces.

The following day, June 15th, he used Pil. Hydrarg. gr. ij. three times a day; six cups were applied to the right side, and his diet consisted of gruel, or weak broth.

On the 16th the patient had less vomiting, and felt in all respects more comfortable; but the yellowness of the skin and conjunctiva had slightly increased.

Ung. Tart. Emet. was applied over seat of pain; bowels opened by enema.

There was no change in the symptoms up to the 18th, when, about 6 P. M., he complained of sudden and violent pain in the abdomen, followed by a small, rapid pulse, singultus, foaming at the mouth, and cold extremities. Two hours after, the abdomen was greatly distended and tympanitic, and the superficial veins were enormously congested.

Pulv. Opii. gr. ij., to be followed by a terebinthinate injection, and sinapisms to the extremities.

During the night the hot bath, Carb. Ammoniaë, and milk punch were occasionally used.

19th. Pulse 140, and feeble; features contracted; skin cold; distension of abdomen increased, and respiration very laborious.

By means of a stomach-tube, introduced up the rectum, a large quantity of gas was disengaged, without, however, any apparent diminution in the size of the abdomen.

He expired the same evening, at 6 P. M., just twenty-four hours from the commencement of the severe symptoms.

Autopsy twenty hours after Death.

Emaciation but moderate. The cavity of the peritoneum contained about half a gallon of bloody serum: a large clot of blood, weighing about three pounds, was situated behind the stomach and colon, and adhering to a fistulous opening in the under surface of the right lobe of the liver. The opening, about half an inch in diameter, was completely surrounded by a soft cancerous mass, (medullary sarcoma,) and could be distinctly traced into the right branch of the Sinus venæ Portarum. Several tumours, of different dimensions, were disseminated throughout the liver, either imbedded in its substance, or projecting from the surface, and giving to that organ a bosselated appearance. The lobulus quadratus was much enlarged, and infiltrated with soft cancerous matter; and the tumour, thus formed, obstructed the flow of bile by pressing on the neck of the gall-bladder and commencement of the hepatic duct.

The tumours presented a mottled appearance, and were composed of red, yellow, and white, medullary-like matter; a similar substance obstructed the different branches of the vena porta, in its distribution through the liver. Liver much enlarged, and of a light yellow colour. Gall-bladder contracted, and containing about 3ij. of viscid yellow mucus.

The stomach, near its pyloric extremity, adhered to the liver, and corresponding to the point of adhesion, its inner surface presented an ulcer about the size of a dollar, covered with fungoid granulations, and extending down to the peritoneum; for several inches around the coats of the stomach were much thickened and indurated.

The mesenteric veins were remarkably devoid of blood. The mucous membrane of the bladder and bronchia, and the lining membrane of the heart and aorta, had a decided yellow tint; but no traces of bile could be seen in the stomach or intestines.

The lower lobe of right lung was compressed, and partially indurated by the upward projection of the liver.

The symptoms of cancer of the liver are, in many instances, extremely obscure; one or more tumours projecting below the margin of the ribs, when attended by the cancerous cachexia, render the existence of the disease highly probable; but, unfortunately, these symptoms are not unfrequently absent, as was the case in the present instance. The pain complained of by the patient, for the last few years, may be fairly attributed to the cancerous disease; but it is also true, that the disease not unfrequently runs on to a fatal termination, unattended with pain or even jaundice.

The yellowness of the skin, in the above case, did not supervene until three weeks before death, and was most probably caused by the rapid encroachment of the cancerous mass upon the neck of the gall-bladder, and the

commencement of the hepatic duct: several cases of a precisely similar character are reported by Andral, in his Clinique Medicale.

The most interesting point in the present case, is the ulcerated opening between the vena porta and the cavity of the peritoneum: the resulting hæmorrhage fully explains the exsanguine appearance of the mesenteric veins, notwithstanding the obstruction to the portal circulation by the soft cancerous matter; the copious internal hæmorrhage also explains the rapid exhaustion of the vital forces, and the absence of peritoneal inflammation.

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DR. PEPPER also read the report of a case of

Cancer of the Stomach and Pancreas.

Michael D—, aged about 50 years, entered the Pennsylvania Hospital June 30th, 1842.

The patient stated that he had been sick for five months, and that his physician considered his disease to be an affection of the kidneys: the history of his previous symptoms was however very imperfect, and could not be relied upon. The day after admission, he presented the following symptoms. Pulse frequent and feeble; tongue red and smooth; no appetite, and occasional vomiting of a greenish fluid; urine scanty and high coloured; insomnia, with frequent moaning; complains of pain in the lumbar region, and tenderness of the abdomen on the slightest pressure. He is much emaciated, and has the peculiar straw-coloured tint which attends the cancerous cachexia. An immovable tumour, apparently two inches in diameter, could be distinctly felt behind the umbilicus.

The long duration of the disease, and its evidently malignant character, rendered it highly probable that but little benefit could be derived from any course of treatment: small doses of morphia were administered with the view of relieving pain, and allaying the irritability of the stomach—bowels opened by laxative enemata—diet restricted to gruel.

The following day, July 2d, Dr. Stewardson took charge of the patient, and he was not again seen by me until July 30th; at which time he presented the following symptoms. Bowels obstinately constipated; frequent vomiting of a brown and very offensive fluid; tumour behind umbilicus evidently increased; emaciation extreme, and yellow tint of skin more marked.

Notwithstanding the frequent use of laxative and terebinthinate injections, his bowels could not be moved; and the irritability of the stomach was such, that neither medicine, nor nourishment in any form could be retained.

Died August 3d, thirty-five days after admission into the Hospital.

When the stomach and intestines were elevated, a large tumour was brought into view; commencing near the spleen, it extended across the spine to the concavity of the duodenum, and was evidently formed by the pancreas in a state of scirrhus degeneration. The disease was not, however, confined to this gland, but extended to the adjacent parts; the crura of the diaphragm, and the commencement of the psoas muscle on either side, but more particularly the left, were converted into a gray indurated mass; and the left portion of the root of the mesentery also formed a part of the scirrhus tumour.

The abdominal aorta, ascending cava, and the mesenteric vessels and nerves were surrounded by the same indurated tissue; the vertebra appeared perfectly natural; several convolutions of the small intestine adhered to the diseased mass, and were in part obliterated.

The absorbent glands of the lesser omentum were enormously enlarged and indurated, several of them being at least two inches in diameter.

The anterior face of the stomach, extending from the lesser to the greater omentum, was from one-fourth to half an inch thick, and much indurated; and, excepting the sub-peritoneal cellular tissue, the different coats of the stomach were converted into a white homogeneous mass. The mucous membrane was ulcerated for about three inches in extent, and covered with fungoid granulations; near the pyloric extremity, and extending into the duodenum, this membrane was minutely injected and thickened.

Kidneys, and other abdominal viscera healthy. An indurated mass, about an inch in diameter and resembling scirrhus, was situated in the centre of the left lung.

Origin of aorta somewhat dilated, but not perhaps more than is frequently seen in persons of an advanced age.

The diagnosis of scirrhus of the pancreas, is often rendered very obscure by the intimate connection between this gland, and other more important organs; thus, the head of the pancreas when much enlarged, presses upon the duodenum, or obstructs the ductus communis choledochus; causing vomiting, jaundice, and other symptoms which are generally attributed to disease of the stomach or liver. The only positive sign of this disease, is a deep-seated tumour immoveably fixed behind the umbilicus; whereas, the tumour which generally attends scirrhus of the pylorus, is moveable, more superficial, and situated above and to the right of the umbilicus. The two diseases are not unfrequently combined, through the medium of the lymphatics or by direct adhesion, and the above distinction therefore loses much of its importance.

Judging from the morbid appearances in the above case, it is by no means improbable that the disease first commenced in the stomach; and thence, by means of the lymphatics, extended to the pancreas and adjacent parts, producing the pain in the loins and functional disorder of the kidneys, so much complained of by the patient.

It is well known that in cancer of the stomach, the matters vomited are frequently very offensive, and that the constipation is also very obstinate; but in the present instance there was fecal vomiting, and constipation such as is rarely seen except in cases of mechanical obstruction. Both the above symptoms are fully explained by the adhesion of several of the convolutions of the intestines to the scirrhus mass.

BIBLIOGRAPHICAL NOTICES.

Lectures on the Theory and Practice of Physic. By WILLIAM STOKES, M. D. and JOHN BELL, M. D. Second Edition. Philadelphia, Barrington & Haswell. 2 vols, 8vo. pp: 604, 732.

We notice with much pleasure the appearance of a second edition of this work, which, we are also glad to see, has been amplified to two volumes. The animated, graphic style of Dr. Stokes has given his lectures great popularity in this country. They have been published in several forms, in Journals, Libraries, and now, for the second time, as a distinct work. The additions

by Dr. Bell to the present edition are so complete, that it takes in the whole range of subjects usually treated in a "Practice of Medicine." We shall give a more extended notice of the work in our next.

Quarterly Summary of the Transactions of the College of Physicians for August, September and October, 1842.

This pamphlet is taken up mainly with the "recapitulation and conclusion" of a lengthy paper on *Mesmerism*, read before the College of Physicians, by Dr. J. K. Mitchell. This recapitulation comprises the deductions of the author from a series of facts collected from a personal examination of the subject during the last five years. The high character of Dr. Mitchell, and the obvious spirit of fairness which characterizes his investigation, give an interest to what he says on this topic which induces us to copy at length his "recapitulation." It will be seen that Dr. M. rejects the delusions of *phrenomesmerism* and *clairvoyance*, as totally destitute of foundation in fact, but that he believes that the phenomena of the mesmeric state "cannot be accounted for by imagination and imitation," and are "not to be ascribed to any thing but a physical influence." This mesmeric influence he attributes to a nervous *induction*, analogous to the action of *presence* in chemistry. As we learn that Dr. Mitchell is about to publish a work on the subject, we are indisposed just now to enter upon a discussion of it. In giving place to the following summary of his views, at the present time, we of course are not to be understood to subscribe to the positions assumed. On the contrary, we dissent from every other explanation of the phenomena of mesmerism, than by the workings of the patient's imagination.

Recapitulation.

1. The investigations into the claims of mesmerism have been hitherto imperfect, because they have been conducted either by interested partisans, or prejudiced opponents.
2. All previous examinations of this difficult subject have been directed rather to its undue pretensions, than to its less obtrusive foundations.
3. The researches of the committees detailed by learned societies, have been contradictory and unfruitful, chiefly, because the trained subjects of the mesmerizers were examined, instead of those among their own friends and acquaintances, on whom they could rely for the unsophisticated representation of the natural phenomena of mesmerism. They invited deception, and either implicitly confided in it; or, having detected the attempt to mislead, condemned the whole system as one of fraud and imposture. Hence, they were always in those extremes which border on truth, but are never within its confines. Astronomy is not the less true, because the ignorant believe that the stars are holes through which the light of Heaven breaks, or because astrologers pretend to see the fates of humanity registered in the conjunction and disseverance of the planets.
4. Imagination and imitation cannot account for the uniformity of the phenomena of the mesmeric state, in persons of all ages and conditions, who are totally ignorant, not only of the symptoms to be produced, but of the design of the mesmerizer.

5. Neither will they explain the analogies found to exist between natural and artificial somnambulism.

6. Nor can we, by any rational view of their cases, ascribe to any thing but a physical influence, the effect of *passes* on the diseased condition of certain patients, some of whom did not observe the manipulation, and none of whom understood its import.

7. Admitting that the mesmeric sleep may be and is produced solely by mental means, the method as well as the phenomena of restoration, both in natural and artificial somnambulism, forbid us to believe that the patients are usually conscious either of the act or the intention. Many of them showed plainly their ignorance by their conversation at the time, and others were totally incapacitated for observation.

8. If we admit the awakening without the aid of the patient's mental co-operation, we can find no reasonable difficulty in believing that the mesmeric sleep is producible also without that co-operation.

9. The phenomena of artificial somnambulism are, 1st. An exaltation of the circulation, without a corresponding increase of the respiration. 2d. An obtunded sensibility to causes of pain, and sometimes, though rarely, its total obliteration. 3d. The more or less complete obliviousness of the thoughts and events of the mesmeric state, while awake, although the memory of the events of the natural state is strong in the artificial state. 4. The retention of locomotion and the facility of being led into suggested dreams, are also curious effects of the mesmeric action. Nothing is too high for the daring, or too absurd for the belief of the dreamer. But all the mesmerized patients are not susceptible of this influence. A few subjects resist, even when asleep, all attempts to mislead them, although they present most of the other peculiarities of somnambulism.

10. To this property of artificial dreaming may be referred the alleged miracles of *clairvoyance*, intuition, and prevision. The subject dreams that he sees, and the questioner is deceived, by his confidence, his plausibility, and his ordinary character. He knows him to be honest, and he does not perceive that he is himself led astray by his uncorrected imagination. There is all the effect of a fraud, without intention to mislead, and without blame.

11. The mesmeric effect is usually producible within ten minutes, and at the first sitting, but some persons have yielded only after long and repeated trials. In general, unless very marked effects are exhibited within half an hour, all subsequent attempts to mesmerize are fruitless.

12. The mesmeric sleep may be dissolved by time alone, the natural duration of the paroxysm lasting from thirty minutes to nearly five hours. The fear of not escaping from the spell, in the event of death, or absence, or loss of power of the magnetizer, is therefore not well founded.

13. The artificial solution of the mesmeric sleep requires sometimes only a single wave of the hand, sometimes many. The mean time is about two minutes.

14. Independently of the voluntary aid of the mesmerized subject, the time taken to dissolve the sleep is very sensibly affected by the distance from him. Thus, in contact, a case consumed 4' 4"; at two yards, 7' 30"; at four yards, 16' 45".

15. Sex does not appear to exercise any very marked influence on the mesmeric susceptibility.

16. Age is a more modifying cause than sex. Though no age is exempted,

the very young and old seem least susceptible; and the period of life between twelve and twenty is that most favourable to the mesmeric influence.

17. Of the temperaments, the nervo-sanguineous seems most liable to the mesmeric action.

18. Although without an exception, so far as I can discover, mesmerists agree in believing that a sound state of health is unfavourable to the success of their operations, I have found it most conducive to well marked mesmeric results. Of twenty-six somnambulists, nineteen were in good, and seven in bad health.

19. The mesmerizing power seems to be very generally possessed, but the susceptibility to soporose mesmeric impression is confined to a few individuals, being about one in seven or eight of those subjected to the trial.

20. The *rapport*, *relation*, or *communication*, supposed to have an absolute existence, dependent on the mesmeric fluid, seems to be entirely voluntary on the part of the patient, and to rest on his knowledge of its supposed necessity. It is, therefore, a delusion; but one of the greatest convenience to the public exhibitors of mesmeric wonders.

21. The delusion as to the "*rapport*" is one of the many hallucinations of the mesmeric state, for which the subject of it is no more answerable than for any of the wild and monstrous dreams to which the disordered fancy may be led, in that unnatural condition both of mind and body. This truth is clearly proved by analogical cases of insanity, where similar delusions continue for years.

22. The mesmeric state curiously modifies the condition of the senses. Sight, hearing, and touch are usually improved, taste, smell, and sense of pain as commonly impaired.

23. As the sense of touch and of pain are so diversely affected by mesmerism, we are led to regard them as independent senses; probably, therefore, supplied by separate nervous fibres. Such an inference ought to have been made before, for many organs have the sense of pain, but not the sense of touch. The presence of a poison will give pain to the stomach or intestines, which do not perceive the motions of the worms that infest them. If this view be correct, the sense of pain is a sixth sense.

24. Many of the feats of the *clairvoyants* are the result of the sharpened hearing, which enables them to detect objects by the sounds they make. They really believe they see them, and so does the exhibitor, although he aids them by handling audibly the various objects. Thus he opens and shuts a pencil, a penknife, or a spectacle case, and rubs a stick, or a sheet of pasteboard. He always makes as much noise as possible with every thing, and he generally asks the producer of a marked card to explain the words or device to him.

25. As we cannot believe in mesmeric "*rapport*," so we are not able to credit the existence of any peculiar sympathy between the operator and subject. Untrained or ignorant patients never show sympathetic phenomena. I have been pinched, and hurt otherwise, a great many times, without observing any suffering on the part of my subjects, until they were taught to believe that such a relation existed; and then they very honestly felt hurt, as people do in dreams—a kind of imaginary suffering.

26. The phrenological phenomena of mesmerism, when rigidly examined, are found to consist, as do most of the mesmeric wonders, of "such stuff as dreams are made of." The *excitement* of the brain is *general*, the *direction* of that excitement is *given by the mesmerised person's knowledge of phre-*

nology; but the patient is not in any case aware of his mental co-operation. This singular delusion or misapprehension, runs through nearly the entire subject of mesmerism; most of the phenomena of which are a strange mixture of physical impulse and mental hallucination. Phrenologists alone feel the phreno-mesmeric excitement. Persons partially acquainted with phrenology, experience it only as to the organs known to them; while those who are totally ignorant of the subject, present no local manifestations, until they are taught, either awake or asleep, what they should know, and what they should do. The displacement of old organs, in one city, their retention of location in another, and the adherence of the patients to the peculiar and dissimilar systems of phrenology, which they have, respectively, been taught, show clearly, that the direction of the cerebral excitement is personal and arbitrary; while the new maps of the cranium, so widely different from each other, leave us no longer in the least doubt as to the delusive source of the compound science of phreno-mesmerism.

27. The mesmeric influence is the effect of what the natural philosophers call *induction*. The will of the operator acts solely on himself; his altered system reacts on the subject of the experiment, by an unexplained power, analogous to the equally inexplicable *induction* of the mechanicians, and the *presence* of the chemists.

28. Mesmerism may be sometimes usefully employed to allay nervous irritation, procure sleep, and obtund nervous sensibility, during surgical operations; but from the fewness of susceptible persons, it can be used very seldom for such purposes. In all other cases it appears to be of little use; and so far as I know, has never cured any serious disease. On the other hand, it sometimes, especially in unpractised hands, produces frightful disorders both of mind and body, and should therefore be resorted to solely for proper and important purposes, and then only with due precaution.

29. The cases of natural somnambulism, so like those of the mesmeric state, the permanent magnetic power of some individuals, the relief afforded to paralysis and stupor, and the restoration from *natural* somnambulism by mesmeric passes, go far to show that the disturbance of the nervous system, which is produced by mesmerism, may and does occur in certain stages of disease, and is not unfrequently present in nervous affections where we have not hitherto suspected its coincidence.

30. Mesmerism may, for the above reasons, be employed to relieve, temporarily, affections of a nervous character, when the usual means fail; but it should be used always with caution, and only when the failure of all ordinary measures renders its application a matter of necessity.

31. The claims to a peculiar *medical intuition*, set up by magnetized persons, or their exhibitors, are destitute of foundation. The pathology is usually absurd, the prescriptions are inefficient, dangerous, or ridiculous, and, after sixty-eight years, mesmerism has not detected a new theory of disease, or suggested one useful remedy.

In conclusion—I may be, perhaps justly, charged with giving to the subject of mesmerism an undue importance, and bestowing on it a disproportionate share of time and attention. The results, being chiefly negative, add almost nothing to our stock of knowledge, and the pretensions now *demonstratively* overthrown, being discarded already by common sense, and the antecedent labours of others, scarcely deserve, in the opinion of the world, a passing notice. But I think I am justified in my laborious investigation, by the interest still felt in the subject, over a large part of the civilized world, by

the want of digested and comprehensive facts, and by the bearing of the phenomena on the practice of medicine, and on the physiology of the nervous system. Perhaps, too, it may not be unimportant to the guardians of public and private morals, the administrators of justice, and the conservators of family and educational discipline, to learn what unsuspected physical agents are at work on the human frame, at all times, and in all places. They may thus be enabled, not only to guard against abuses, but to make indulgent and charitable estimates of the character and extent of crime and error.

Doubtless, the mesmerists will say that I pay too little attention to the testimony of others on many of the points in which I differ from them, and others may allege that for all that part of the subject which I admit to be true, I give too much weight to my unsustained labours and observations. To both, I may with truth, and without undue pretension reply, that I did not expect to settle any question *definitively* by these researches. They were made carefully and honestly, and the results set down without exaggeration or extenuation, for the purpose of making as close an approximation to an obscure truth, as the time and opportunity would permit. Others, following in the same exact path, may enforce or weaken my conclusions; but sure I am, that it is only thus that we shall finally settle these vexed questions, and not by opinions founded on unrecorded observations, or vague generalities derived from loosely kept records. While I find volumes of conclusions, I discover no tables to which I can refer for support or refutation. I see many edifices, but I discover no foundations for them, and naturally infer that, as they rest on no solid bases, they are without weight, and made of imagination.

As to the charge of refusing the testimony of others, I answer that their evidence is so conflicting as to destroy itself. The most substantial proof, that of distinguished medical men, is usually on my side, and if I have not availed myself of that, how can those complain who give *opinion* on the other side? Few are competent to observe, in a question involving medical knowledge and scientific attainment. He who would truly understand such phenomena, must know all that is known of the nervous system, and much that is taught as physical science. He must have studied, also, the human mind in health and disease, and have examined the kindred complaints of somnambulism and catalepsy. Now, it is not a little remarkable that the authors who have written in favour of the higher claims of mesmerism, have not been thus prepared, while the more accomplished observers have decided against those claims. Let me illustrate this farther. Phenomena are observed in the heavens—among the stars. Every one sees them—but to whom do we look for the explanation by which these phenomena are fashioned into facts. For how many thousand years did the constellations glide across the zenith, in nightly brilliancy, observed by millions of eyes, before the splendid phenomena assumed to the human understanding the shape of a fact. Until explained by Copernicus, it was a bright illusion—the *very opposite of that which it seemed*. If this illustration does not lessen the confidence of ignorant observers in their powers of discrimination, I am at a loss for means to teach them humility, which can alone give much value to the observations of any one, however otherwise prepared for investigation. That sleepers often describe well distant places and events, is true; but does it follow that they obtain the knowledge by spiritual inspection? Or are they indebted to other and more intelligible means of discrimination? It is not less true, that there is sometimes the manifestation of strong personal sympathy between mesmerizer and subject, but

are there not unexamined sources of error in the most obvious explanation of this phenomenon? The dispute is less as to the appearances, than as to the view to be justly taken of them. The vast and airy beings that darkened for ages the skies of the Brocken Mountain, were the wonder and terror of the ignorant peasantry, until more competent observers proved them to be the shadows of human beings, cast by the rising and setting sun in exaggerated volume on a screen of clouds. That which had been a frightful phenomenon, became an agreeable fact. The shadowy things of artificial somnambulism have long enough displayed their visionary forms on the sky of human wonder. It is time to give them that true import which will take them from the mountebank and pretender, and place them in the hands of philosophy. If I can believe that I have done so much as to bring philosophy to the task, free from prejudice and restraint, I shall be satisfied that my labour has not been in vain.

ANALECTA.

Case of Empyema terminating favourably by spontaneous opening. By SAMUEL SHORTRIDGE, Esq., Surgeon, Port-Glasgow.—Upon 5th October, 1838, I was taken to visit J. P., of a stout robust appearance, who presented the usual symptoms of acute inflammatory fever, accompanied with cough, dyspnœa, and a fixed pain near to the inferior border of the left scapula, extending across the posterior surface of the chest.

He mentioned that, two days previously, while engaged in raising a heavy piece of timber, "he felt something give a crack" in the foregoing position, which, however, did not prevent him continuing his employment during the entire day, but that, upon the following day, while rowing a boat, he became chilly and squeamish, and was forced to bed, when the above symptoms made their appearance. When seen by me, I took blood to syncope, and prescribed an antimonial saline mixture, some powders containing calomel and antimonial powder, and applied a sinapism to the painful part.

On the following day, there being no improvement, the blood-letting was repeated, a large blister was applied, and the medicine continued. The sputa, which now became more copious, from its rusty character, and the ordinary stethoscopic indications, enabled me to consider the inflammatory action to have extended to the substance of the lung. The usual antiphlogistic measures were continued; blisters repeated from time to time; and in the course of a few days, the acute febrile symptoms subsided; but there still remained the fixed pain near the scapula, frequent cough, copious expectoration, and a total inability to lie upon the right side, any attempt at which greatly aggravated the cough and dyspnœa. Very little benefit was derived from the treatment adopted; colliquative perspirations were superadded, to ameliorate which, mineral acid and quinine were had recourse to.

Towards the end of December, debility and emaciation had advanced progressively, and a fullness was observed over the left side of the chest, although no difference in its capacity was found upon measurement; percussion on the part elicited a dull sound; and the respiratory murmur was very faint, although audible over the subclavian region; and a few days after, a soft tumour appeared on the fifth intercostal space, an inch below, and to the outside of the left nipple. Upon the day of this discovery I contemplated the

propriety of puncturing the tumour, but deferred doing so till the following day, requesting support to be given by a bandage, lest it might be ruptured during coughing; as I had some expectation that the cavity might be ruptured, since, during the few days previously, there had taken place an ejection of purulent fluid, occasionally to the extent of two pints at one time, which flowed freely, and without effort, from the mouth, and sometimes so as to endanger suffocation.

Having delayed the puncture, as hinted, I found the next day that the surface of the tumour had ulcerated, and my patient lay bathed in purulent matter, the bed and clothes being fully saturated with it. The purulent matter continued to flow from the aperture, and some came afterwards by the mouth. My patient was afterwards kept comfortable by evacuating the purulent matter night and morning to the extent of a pint, which was facilitated by turning him to the left side, and requesting a full inspiration and a cough to be made, when a soft pledget with a quantity of tow and a bandage was applied.

The cough and dyspnœa were now greatly relieved; a generous diet with porter, together with the acid and quinine, were prescribed, under which he gradually gained so much strength as allowed him to go out of doors by March, 1839, and henceforward he continued still so weakly as only to be able to walk a very short distance, while the purulent matter was continued to be evacuated night and morning, in nearly the same quantities as at first, by removing the bandages, &c. until three weeks ago, when blood appeared instead of purulent matter, and the wound thereafter closed, leaving a flattened thimble-like cavity, into which the point of the finger could be introduced; and he has since progressed in strength.

Upon examination, the movements of both sides of the chest are equable, and the respiratory murmur natural, as also the sound elicited by percussion.

The successful result of this case may, perhaps, be regarded as a support to the practice generally adopted, of gradually evacuating such collections, as it is very probable that only as much purulent matter flowed in the first instance as reduced it to the level of the aperture.

Whether or not the *origo mali* was some injury the pleura could have suffered while making the vigorous effort stated, or was the result of the chill while in the boat, or both combined, may appear doubtful, but that the former had some considerable share, may be argued from the pain persisting in that locality, even up to within a short period of his final recovery.*—*Edinburgh Med. and Surg. Journ.* Oct. 1, 1842.

* The case here detailed by Mr. Shortridge is extremely important, in illustrating the mode which nature often adopts, in order to effect a cure in cases of pleurisy terminating in empyema. In all cases in which, as in the present, a circumscribed pointing tumour is formed, it is of little moment whether the puncture be made or not. It may be made with much greater chance of ultimate recovery, than where no such pointing tumour is formed. But if not made, the tumour forms a spontaneous opening as in the present case. The reason seems to be, that adhesions to considerable extent have previously taken place internally, and have thus circumscribed the matter, which, according to the principle long ago pointed out by John Hunter, finds its way naturally to one or other of the surfaces of the body.

When no pointing tumour forms, there is a manifest and decided contraindication to the operation; and it very rarely succeeds in such circumstances.—EDITOR.

On a New Remedy for Scalds and Burns. By WILLIAM RHIND, Surgeon, Edinburgh.—There are so many circumstances which lead one to be deceived in the operation of a new remedy, that I would with considerable diffidence have called the attention of the profession to the following facts, had not a lapse of a good many years, and repeated trials and strict observation confirmed me of their accuracy.

As in most other cases of remedial substances, a mere accidental circumstance first directed my attention to this discovery. In the year 1828, having let fall a drop of melted sealing-wax on the point of the finger, by which it was rendered extremely painful, I plunged it into a solution of gum-arabic, this being the only fluid substance at hand. In a few minutes I was surprised to find that the pain had completely ceased. I allowed this gum to harden on the part, and on washing it off several hours afterwards, I found the cuticle hardened and separated from the cutis, indicating the usual severity of the burn, but there was no blister or effusion of serum, and no pain or injury of the cutis. From this circumstance I resolved to try the farther effects of solution of gum-arabic in burns, and the following cases, which I find in my note-book, occurred some time after.

1828, April 9. A boy (aged 12) called on me at nine o'clock, evening. He had been firing off crackers of gunpowder, one of which had exploded and severely scorched the palms of both his hands and his fingers. The parts were red with excessive pain, and on one hand were three or four small blisters; these I opened, and pressed out the serum, and then with a large camel hair pencil smeared both hands over with a thick solution of gum-arabic. I went over the parts several times with this solution, so as to fix it completely over the surface of the skin, and then sent the boy out into the cool air. He returned in half-an hour. The pain of one hand was quite gone, and the other much easier. The solution was repeated till it thickly incrustated the hand, and he was again desired to walk about in the cool air, and to avoid hanging or moving the hand. In a very short time he again returned with the hand completely relieved of pain except in one spot, between the fingers, where the solution had not been applied. Here there was a small blister, which was immediately snipped, and after pressing out the serum the part was covered with the solution. At ten o'clock both hands were quite easy, and he expressed much satisfaction. During the night he felt no pain or unusual heat in his hands. Next morning he washed off the thick crust of gum, and when I saw him the cuticle of his palms was quite hard, and had all the appearance of a severe burn, but no blisters had risen, and the few that had been opened discharged a little serum, but healed without giving any farther trouble.

1828, November 8. A workman employed at a brass-foundry got his face very much scalded by a quantity of hot lead or solder falling on it. I saw him a few minutes after the accident. Large patches about his eyelids, cheeks, forehead, and lower lip, both outside and inside, were very much reddened, and were apparently beginning to rise into blisters. He complained of intense hot pain. Portions of the melted solder were picked from his lips, eyelids, and nose, and a solution of gum-arabic was applied immediately the whole extent of the injured parts. Repeated coats or coverings of this solution were applied at intervals of about five minutes till the whole began to harden over the face. He was desired to go home and keep himself in a cool place, and, if the pain did not abate in less than half-an hour, to return. I saw him in an hour, the pain had so completely left him that

he was at dinner. No blister rose in this instance. A slight discharge occurred in two or three spots where the skin had been destroyed, but these healed in a very short time.

In my notes I find several other cases of burns and scalds in subsequent years, treated in a similar manner and with a like success, the details of which, however, would not afford any interest. In some of these cases an hour or more had elapsed since the accident, and oils and other applications had been used. In such instances, the skin was cleaned of the oily matters, by sponging it with soap and water, and then the solution was applied. In every case relief was procured in a very short time. The more recent the case, however, the more speedy was the removal of the pain. In those cases where blisters had appeared they were opened, and the solution was then applied; very frequently the application of the solution prevented the effusion of more serum; in some cases, however, serum was again effused and again evacuated. The last case which I have on record was 1840, March: Mrs ———, in reading too near to a candle, set fire to her gown at the shoulder, the thin fabric consumed immediately and severely scorched her arm. I saw her about ten minutes after. The whole shoulder and arm, embracing the space over the deltoid muscle and the greater part of the inside arm, were severely burnt, and she felt great pain. A thin solution of gum-arabic was immediately applied, while a thicker one was preparing, and several coats of this latter were spread over the parts repeatedly in the course of half-an hour. An hour after the accident the pain was almost entirely gone. A few blisters had risen about the inside of the arm; these were snipped, and the solution repeated. Next day, this patient had experienced no farther uneasiness from the arm, but the agitation and fright had brought on labour nearly about the full time. She was delivered of a still-born child, and had a good recovery. The blistered parts of the arm skinned off when the solution was washed away; the abraded parts were sprinkled with a little flour, and healed in a few days.

I have not had an opportunity of treating any cases of burning where there was much destruction of skin or soft parts, and therefore cannot say what effect the solution would have on those. I would suggest, however, that, if applied in such cases, a thin layer of raw cotton should either be smeared with the solution, or applied immediately after the fluid has been brushed over the parts, in order to form a sort of substitute for the skin, and a means of retaining the gum-arabic solution.

In those distressing cases of the extensive burning of the bodies of young children, I would not hesitate applying the solution over the whole body, at about the warmth of 96° . It does not cool down the system by sudden evaporation or sudden abstraction of heat like a common cold fluid, a circumstance in most cases to be dreaded, for gum is a bad conductor of heat; neither does it preclude an exposure to moderately cool air, which seems to keep down the excessive irritation consequent upon extensive scalding of the skin.

As it is of consequence to have the solution prepared instantly, the powdered gum, if it can be procured, may be in a few minutes dissolved in warm water. If this is not ready prepared, the common gum in small particles roughly pounded, will very soon dissolve, and the application in any case may be applied at a temperature of 96° or 100° , although in general it is more soothing when applied colder. Rancid gum solution should not be used, as it in this state has lost its adhesive quality. Two, three, or four

applications may be necessary at intervals of five or ten minutes. The skin should be previously freed of all oily matters, and the first coating, in order that it may be insinuated closely into the furrowed surfaces of the skin, should be rather thinner than the subsequent ones. In order to produce the proper effect it should form a varnished coat of some thickness and closeness over the whole space of the burnt part.

With regard to the *modus operandi* of this substance, I am as much in the dark as we usually are with the mode of action of most well known remedies. I am unable to say whether it has a specific action, or whether it allays the inflammable irritation of the skin, by effectually excluding the external air, and by its being a bad conductor of heat.

The first proposition might be so far tested by trying if other gums and mucilages, or isinglass, for example, produced a similar effect. This I have not tried.

From some experiments, which, however, we never completed, that I instituted some years ago, regarding the influence of oxygen on inflamed tissues and vessels, I am inclined to think that the exclusion of atmospheric air influences very much inflammatory action, and in this way, perhaps, the gum solution checks the inflammation of the skin in burns. Inflammation caused by touching the skin with nitrous acid and other irritants, appears to be suddenly allayed by a solution of gum-arabic: erysipelatous spots on the skin seemed almost in some trials influenced by this application. And I may here suggest, that it might be tried in the first stages of the pustules of small-pox, especially those of the face, with a view to modify their development, and prevent pitting.

In conclusion, I deem it proper to mention, that, several years ago, I communicated the effects of this remedy to friends, both medical and others, and that several cases have been treated according to the above directions with uniform success. A few of those cases I find noted, but I do not perceive that they present any farther facts worthy of detail.—*Ibid.* Oct. 1, 1842.

Refutation of Liebig's theory of the uses of the Respiration and of Food. By M. J. J. VIREY.—It may be recollected, that Liebig holds that the chief use of the food is to supply carbon and hydrogen, which, uniting with the oxygen absorbed from the air, give rise to the generation of animal heat. He consequently holds that there is a certain fixed relation between the amount of food consumed, and the quantity of carbon and hydrogen thrown off at the lungs. M. Virey opposes this theory, as contrary to common observation, as, even though it be allowed to be applicable to mammalia, birds, and reptiles, it is by no means to those animals which respire by means of branchiæ. Thus all animals with the branchiæ consume but little oxygen, comparatively speaking, and yet many of them devour very great quantities of food. Even the largest and most voracious of the reptiles, as the alligators, crocodiles, &c., which devour enormous quantities of food, under a burning climate too, respire feebly with their vesicular lungs, and consume but little oxygen.

Fishes, whose blood is but imperfectly oxygenated by the branchial apparatus, are perhaps among the most voracious of animals, and yet, according to Liebig's theory, they ought to eat little, because they consume little oxygen.

The same holds true of the Mollusca. The cuttle-fish, *buccinum*, *strombus*, *murex*, &c. grow to a large size; but their respiration is very imperfect,

and yet they are great flesh-eaters. The Crustacea, again, as the crabs, lobsters, &c. grow rapidly, because they are great eaters; but their branchial apparatus is not fitted to consume much oxygen.

In all these animals assimilation takes place very rapidly, notwithstanding their feeble respiratory powers; and they are, besides, by no means deficient in activity or muscular powers, though, their flesh be but feebly azotized or animalized, and their blood is always cold.

If it be one of the characters of vitality, that the more perfect this principle is the greater is the number of germs, or eggs, or fœtuses produced, then, quite contrary to Leibig's theory, the number of germs produced is in the inverse ratio of the perfection of the respiratory functions. Fishes and mollusca deposit their spawn or eggs by millions; but the mammalia, and even the birds, whose respiratory functions are the most perfect, are in this respect infinitely behind these. On the other hand, it is seen that the number of germs or eggs is rather proportioned to the nutrition received; for the amount of food taken is not proportioned to the respiration in the animal kingdom.

M. Virey, therefore, concludes, that the vital force or central nervous energy has more to do with the production of animal heat than the consumption of carbon at the lungs, and this for three special reasons; 1st, Because a fecundated egg resists a freezing temperature longer than one which has not been fecundated. 2d, That a hybernating insect, reptile, or animal, or even trees during winter, by the sole influence of a vital power, resist a freezing temperature, whereas the same animals, if dead, would be instantly frozen. 3d, That many mammalia and birds keep themselves warm even in the most rigorous winters under the Pole, not in consequence of a greater amount of oxygen consumed, nor by a greater amount of muscular activity, but in consequence of a more abundant highly azotized or animalized nourishment.—*Ibid*, from *Journal de Pharmacie*, May 1842.

Academy of Medicine, Paris, August 30.

Vaccination.—M. Bousquet read a report on a memoir of M. Milon, entitled "Remarks on Vaccination." The author had occasion to observe an epidemic of small-pox and test the protective power of vaccination. The disease was invariably arrested by vaccination, but a few vaccinated persons were attacked; in all these cases the individuals had been vaccinated a long time anteriorly to the attack of small-pox, which, however, always showed itself under the form of varioloid.

It has been frequently said that the protective power of the vaccine matter is only temporary; if by this is meant that varioloid may occur at some period after vaccination, the assertion is true; but not so, if it mean that true small-pox occurs after vaccination. M. Milon does not believe that the efficacy of the vaccine matter has undergone any change from the lapse of time. "I was of the same opinion (says the reporter) up to 1836, but having then witnessed the action of new vaccine matter, I was compelled to acknowledge that the old had lost a portion of its efficacy."

Microscopic Characters of the Sputa in Consumptive Patients.—M. Sandras read a memoir on this subject. The sputa were taken from the patients incontestably laboring under phthisis, and examined with a microscope magnifying 300 diameters. The result of the author's investigations is, that the matter expectorated by consumptive patients is of a specific kind,

and that the microscope is a most valuable adjunct to our means of diagnosis. The sputa of phthisical patients contains numerous round isolated globules of a grey-white colour, similar in form and size to those of pus, but differing from the latter in this, that whereas pus globules are perfectly free, the former are enclosed in a flocculent envelope, which cannot be washed off from them. To see the globules well, we should avoid collecting too many of them under the field of the microscope. Another character of these globules is their complete opacity in the centre, and their gradual transparency towards the circumference. These facts were observed in forty-nine cases of pulmonary consumption.

The tubercular sputa, however, do not exist in all consumptive patients, and even in the same subject the expectorated matter presents, as we can readily understand, a variety of appearances. A remarkable fact is, that the globules now alluded to are not found in the pus taken from scrofulous glands or tubercular ulcers of the intestinal canal. The author has examined, for the purpose of comparison, the expectoration in simple catarrh. Eighteen patients were examined, but the sputa never contained any globules; they contained corpuscles differing from tubercular globules; first, in being agglomerated and not distinct; second, in being of different sizes; third, in the uncertain manner of their appearance under the field of the microscope; and fourth, in being striated on the surface.

In spite of these differential characters, some cases presented themselves in which the author hesitated; they were chiefly cases where the physical signs and the progress of the disease seemed to contradict the signs furnished by the microscope; but in these doubtful cases it generally happened that the result of the autopsy showed the instrument to have been right. These newly indicated characters may assist and complete our other means of diagnosis. The author does not, however, consider the expectorated matter as being tubercular; on the contrary, he thinks that the pus is secreted by the tissues which surround the tubercles; but he concludes that it acquires from the tubercular matter the peculiar characters which he has indicated.—*Prov. Med. Journ.* Sept. 17, 1842.

Academy of Sciences, Paris, September 5, 1842.

New cause of Emphysema.—M. Louget read a memoir on the nature of the intrinsical motion of the lungs and a new cause of pulmonary emphysema. The following are the conclusions at which the author arrives:—

1. When galvanism is applied to the branches sent from the vagus to the first divisions of the bronchia, it excites evident contractions in these tubes; the animals experimented on should be of lofty stature.
2. Division of the pneumogastric nerves may be followed by emphysema.
3. This seems to contradict the idea that the capillary vesicles of the lung are formed of elastic fibrous tissue.
4. Their parietes are endowed with active contractility, under the influence of the vagus.
5. This contractility ceasing on division of the vagus, it becomes impossible for the air to be renewed in the ultimate branches of the air-tubes, although their elasticity remains intact.
6. Circulation is impeded, or even suspended along the walls of these tubes, which are forcibly distended by vitiated air, containing a large proportion of carbonic acid gas.
7. Emphysema, thus complicated with pulmonary congestion, constitutes a cause of asphyxia.—*Ibid.*